

Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269



Scaled data based on original data using
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for
Cooper Lighting Solutions

Brand: NEO-RAY

Report Number: P929813

Luminaire Tested: DFN2DS-4P2F0-030DS927-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P929813
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P333812)
Test Lab: INNOVATION CENTER
Issue Date: 11/20/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DS-4P2F0-030DS927-FLL
Description: 2 foot, 90deg - 4way Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

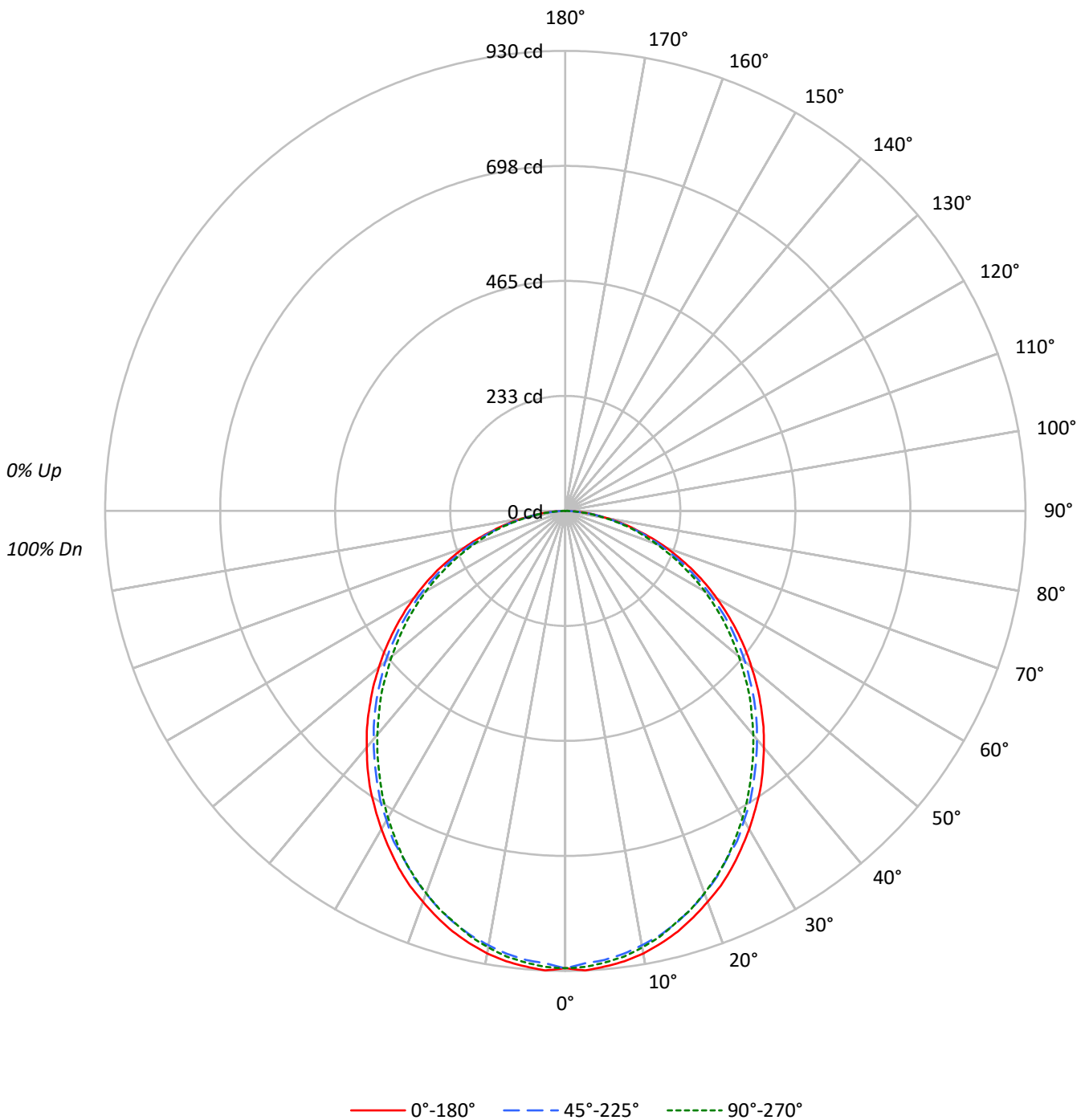
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2352.3 lumens
Efficiency: N/A
Efficacy: 77.6 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 2.07' x L: 2.07' x H: 0')
CIE Type: Direct

Input Watts (W): 30.3
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9954
Total Harmonic Distortion (THDi): 0.076
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				20				
RC	80				70				50				30				10			0	
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR																					
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	102	102	102	100
1	109	104	100	96	106	102	98	95	98	95	92	94	91	89	90	88	86	86	86	86	84
2	99	91	85	79	97	89	83	78	86	81	76	83	78	74	80	76	73	73	73	73	71
3	91	80	72	66	88	79	71	65	76	69	64	73	68	63	71	66	62	62	62	62	60
4	83	71	63	56	81	70	62	56	68	61	55	65	59	54	63	58	54	54	54	54	51
5	77	64	55	49	75	63	55	48	61	53	48	59	52	47	57	51	47	47	47	47	45
6	71	58	49	43	69	57	48	42	55	48	42	53	47	42	52	46	41	41	41	41	39
7	66	52	44	38	64	52	43	38	50	43	37	49	42	37	47	41	37	37	37	37	35
8	61	48	40	34	60	47	39	34	46	39	33	45	38	33	44	38	33	33	33	33	31
9	57	44	36	30	56	43	36	30	42	35	30	41	35	30	40	34	30	30	30	30	28
10	54	41	33	28	53	40	33	28	39	32	27	38	32	27	37	32	27	27	27	27	26

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2315	2315	2315
5°	2324	2290	2304
10°	2310	2267	2278
15°	2281	2238	2235
20°	2241	2194	2191
25°	2201	2139	2139
30°	2149	2090	2072
35°	2101	2030	2000
40°	2040	1970	1932
45°	1980	1911	1864
50°	1915	1849	1784
55°	1848	1778	1712
60°	1772	1692	1630
65°	1691	1607	1533
70°	1588	1504	1432
75°	1444	1384	1351
80°	1282	1243	1180
85°	1046	997	894

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 1980 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	87.0	3.7
10°-20°	244.8	10.4
20°-30°	359.8	15.3
30°-40°	417.9	17.8
40°-50°	417.4	17.7
50°-60°	363.9	15.5
60°-70°	269.0	11.4
70°-80°	152.2	6.5
80°-90°	40.2	1.7
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	691.6	29.4
0°-40°	1109.5	47.2
0°-60°	1890.8	80.4
0°-90°	2352.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2352.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	924	924	924	924	924	
5°	924	921	911	918	917	88
15°	880	875	863	867	862	248
25°	796	790	774	776	774	367
35°	687	678	664	659	654	429
45°	559	553	540	530	526	432
55°	423	418	407	397	392	378
65°	285	280	271	263	259	282
75°	149	148	143	138	140	159
85°	36	36	35	32	31	43
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	924.5	924.5	924.5	924.5	924.5
2.5°	929.9	925.5	915.6	924.5	922.8
5°	924.5	921.0	911.2	918.3	916.6
7.5°	918.3	913.0	903.2	910.4	908.6
10°	908.6	902.3	891.7	898.8	896.1
12.5°	895.2	889.9	879.3	883.6	881.9
15°	880.1	874.8	863.2	866.8	862.3
17.5°	861.4	856.2	844.5	848.9	844.5
20°	840.9	835.6	823.2	825.8	822.3
22.5°	820.6	812.6	800.9	800.9	799.1
25°	796.5	789.5	774.3	776.1	774.3
27.5°	769.8	763.6	752.1	749.5	745.0
30°	743.2	736.1	722.8	720.1	716.5
32.5°	714.8	709.5	695.2	689.8	686.3
35°	687.2	678.3	664.1	658.7	654.3
37.5°	656.1	648.1	633.8	627.6	623.1
40°	624.1	617.0	602.7	594.8	591.2
42.5°	593.0	585.8	571.7	562.7	557.4
45°	559.2	553.0	539.6	529.8	526.3
47.5°	526.3	520.1	505.9	496.0	490.7
50°	491.6	487.2	474.7	462.3	457.9
52.5°	457.9	451.6	440.1	430.3	424.0
55°	423.2	417.9	407.2	396.6	392.1
57.5°	388.5	384.0	372.5	361.8	358.2
60°	353.8	350.3	337.9	328.0	325.4
62.5°	320.0	313.8	304.9	296.0	292.5
65°	285.4	280.1	271.2	263.2	258.7
67.5°	249.9	245.4	237.4	231.2	227.6
70°	216.9	213.4	205.4	199.1	195.6
72.5°	183.2	179.5	175.1	168.9	166.3
75°	149.3	147.6	143.1	137.8	139.6
77.5°	119.1	115.6	113.7	111.1	108.5
80°	88.9	88.0	86.2	83.6	81.8
82.5°	60.4	60.4	59.6	56.0	56.0
85°	36.4	35.6	34.7	32.0	31.1
87.5°	16.0	14.3	12.4	9.8	8.9
90°	0.0	0.0	0.0	0.0	0.0



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CIE UGR TABLE:

Reflectances:											
Ceiling		0.7	0.7	0.5	0.5	0.3	0.7	0.7	0.5	0.5	0.3
Wall		0.5	0.3	0.5	0.3	0.3	0.5	0.3	0.5	0.3	0.3
Reference plane		0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Room dimensions		Viewed crosswise					Viewed endwise				
X=2H	Y=2H	14.20	15.81	14.56	16.12	16.44	13.75	15.37	14.12	15.68	15.99
	3H	15.95	17.40	16.33	17.73	18.09	15.46	16.91	15.83	17.24	17.60
	4H	16.60	17.96	16.99	18.31	18.69	16.10	17.47	16.50	17.82	18.19
	6H	17.06	18.33	17.48	18.70	19.09	16.56	17.83	16.97	18.20	18.59
	8H	17.21	18.42	17.63	18.81	19.21	16.70	17.92	17.13	18.30	18.70
	12H	17.30	18.46	17.73	18.84	19.27	16.79	17.95	17.22	18.33	18.76
4H	2H	14.76	16.13	15.16	16.48	16.85	14.41	15.78	14.80	16.12	16.50
	3H	16.73	17.88	17.14	18.28	18.68	16.33	17.47	16.74	17.87	18.27
	4H	17.51	18.55	17.94	18.96	19.40	17.09	18.12	17.52	18.54	18.97
	6H	18.11	19.01	18.56	19.45	19.91	17.68	18.58	18.13	19.02	19.48
	8H	18.30	19.14	18.76	19.59	20.05	17.86	18.71	18.32	19.15	19.61
	12H	18.43	19.19	18.91	19.66	20.13	17.98	18.74	18.46	19.21	19.68
8H	4H	17.78	18.63	18.24	19.07	19.54	17.41	18.26	17.87	18.70	19.16
	6H	18.50	19.20	18.99	19.69	20.17	18.12	18.82	18.61	19.31	19.78
	8H	18.76	19.39	19.27	19.89	20.38	18.37	19.00	18.88	19.50	19.99
	12H	18.96	19.51	19.46	20.01	20.57	18.54	19.10	19.05	19.59	20.15
12H	4H	17.81	18.57	18.29	19.05	19.52	17.45	18.21	17.93	18.68	19.15
	6H	18.54	19.18	19.05	19.68	20.17	18.18	18.81	18.69	19.31	19.80
	8H	18.86	19.42	19.36	19.91	20.47	18.48	19.04	18.99	19.53	20.09